

SPARK CURRENT CANCELLATION IN CHARGE PUMP OF HIGH SPEED PHASE LOCK LOOP CIRCUIT

Abstract

A structure and associated method to control spark current in a phase lock loop circuit. The phase lock loop circuit comprises a voltage controlled oscillator, a phase comparator circuit, and a charge pump circuit. The voltage controlled oscillator is adapted to provide a first signal comprising a first frequency. The phase comparator adapted to compare the first signal comprising the first frequency to a reference signal comprising a reference frequency. The phase comparator is further adapted to provide a control signal representing a phase difference between the first signal and the reference signal. The charge pump circuit is adapted to receive the control signal and control the voltage controlled oscillator such that a phase of the first signal equals a phase of the reference signal. The charge pump circuit is further adapted to compensate for a spark current resulting from a switching mode of the control signal.